

Laboratory **Quality Control Laboratory, Jay Jagdamba Limited, Gut No. 92/3, 422, 423, 424, Village Abitghar, Shirishpada-Shahapur Road, Taluka-Wada, Dist.: Palghar, Maharashtra**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **TC-6222**

Page 1 of 2

Validity **20.02.2018 to 06.02.2020**

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
-----	----------------------------	-------------------------	---	--

**CHEMICAL TESTING**

I.	METALS & ALLOYS			
1.	<b>Fe-base Low Alloy Steels</b>	C	ASTM E415-15	0.05% to 1.30%
		Si	ASTM E415-15	0.02% to 1.18%
		Mn	ASTM E415-15	0.20% to 1.67%
		P	ASTM E415-15	0.010% to 0.076%
		S	ASTM E415-15	0.010% to 0.055%
		Cr	ASTM E415-15	0.05% to 3.00%
		Ni	ASTM E415-15	0.02% to 4.10%
		Mo	ASTM E415-15	0.020% to 0.95%
		Cu	ASTM E415-15	0.05% to 0.68%
		V	ASTM E415-15	0.002% to 0.49%
		N	ASTM E415-15	0.006% to 0.015%
		Al	ASTM E415-15	0.005% to 0.30%
2.	<b>Fe-base Stainless Steels</b>	C	IS 9879/ASTM E1086	0.010% to 0.20%
		Si	IS 9879/ASTM E1086	0.23% to 1.41%
		Mn	IS 9879/ASTM E1086	0.41% to 2.00%
		P	IS 9879/ASTM E1086	0.010% to 0.038%
		S	IS 9879/ASTM E1086	0.001% to 0.030%
		Cr	IS 9879/ASTM E1086	11.90% to 25.30%
		Ni	IS 9879/ASTM E1086	4.70% to 22.00%
		Mo	IS 9879/ASTM E1086	0.02% to 3.50%
		Cu	IS 9879/ASTM E1086	0.01% to 3.20%
		V	IS 9879	0.03% to 0.10%
		W	IS 9879	0.010% to 0.50%
		Nb	IS 9879	0.010% to 0.98%
		N	IS 9879	0.010% to 0.35%
Ti	IS 9879	0.010% to 0.50%		

**Laboratory**                      **Quality Control Laboratory, Jay Jagdamba Limited, Gut No. 92/3, 422, 423, 424, Village Abitghar, Shirishpada-Shahapur Road, Taluka-Wada, Dist.: Palghar, Maharashtra**

**Accreditation Standard**    **ISO/IEC 17025: 2005**

**Certificate Number**        **TC-6222**

**Page 2 of 2**

**Validity**                        **20.02.2018 to 06.02.2020**

**Last Amended on --**

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
-----	----------------------------	-------------------------	---	--

**MECHANICAL TESTING**

<b>I.</b>	<b>MECHANICAL PROPERTIES OF METALS</b>			
<b>1.</b>	<b>Ferrous Metals &amp; Alloys</b>	0.2% Proof Stress	ASTM A370 ISO 6892-1	100 MPa to 1200 MPa
		1% Proof Stress		100 MPa to 1200 MPa
		Ultimate Tensile Strength		300 MPa to 1500 MPa
		% Elongation		1% to 90%
		% Reduction in Area		1% to 95%
		Brinell Hardness Test	ASTM E10 EN ISO 6506-1	100 HBW to 350 HBW 10/3000
		Rockwell Hardness Test	IS 1586 Part 1	20 HRC to 70 HRC
<b>II.</b>	<b>METALLOGRAPHY TEST</b>			
<b>1.</b>	<b>Ferrous Metals &amp; Alloys</b>	Grain Size	ASTM E 112	Magnification 100x ASTM No. 0 to 10 Comparison Method
		Inclusion Rating	ASTM E 45	Magnification 100x Comparison Method with Plate-I
		I.G.C. Practice 'E'	ASTM A 262	Carbide fissure Present/Absent